

## Forum

### Thirsty Planet

The world is experiencing a major water crisis that will continue to worsen unless current conditions change, says the World Bank. An August World Bank report stated that 30 countries containing 40% of the world's population are already experiencing water shortages that threaten their agriculture, industry, and health.

According to the report, population growth and contamination of water are the major causes of these water shortages. The report was prepared for the World Bank's fifth annual water symposium, which was held August 13–18 in Stockholm. In presenting the report at the conference, Ismail Serageldin, vice president of the World Bank, said, "The water problem in most countries stems not from a shortage of water, but rather mainly from inefficient and unsustainable use of water resources, a situation that cannot continue."

The report states that most of the countries experiencing water shortages are in areas where populations are growing quickly, such as the Middle East, North Africa, Central Asia, and sub-Saharan Africa. Other areas facing water shortages include northern China, western and southern India, western South America, Pakistan, and Mexico. Pollution is also a large problem affecting water in Eastern Europe.

World population is predicted to grow from the current 5.6 billion people to 8 billion people in 2025, which will result in higher agricultural, domestic, and industrial demand for water. Historically, global demand for water has increased at a rate of about 2.3% a year, doubling every 21 years, according to the report. But current and projected water supplies will not meet this demand.

The report points out that the supply of potable water throughout the world is being contaminated through pollution sources such as domestic wastes, industry, agricultural chemicals, and mismanaged land use. According to the report, contaminated water now causes 80% of the diseases in developing countries and kills 10 million people annually. "This decline in water quality can be seen in many developing countries," Serageldin said in a press release. "Most rivers in and around cities and towns in these countries are little more than open, stinking sewers that not only degrade the aesthetic life of the city but also constitute a reservoir for cholera and other water-related diseases."

About 95% of the world's sewage and a growing amount of industrial waste are now being dumped directly into rivers and streams. Even middle-income countries rarely treat sewage. For example, Buenos

Aires treats only 2% of its sewage, which is typical for Latin America, states the report.

To thwart the impending water crisis, the World Bank says that \$600 billion should be invested in global water resources over the next 10 years. Most of the \$600 billion should be raised by the countries that are in danger, says the report, but the bank estimates that \$60 billion must come from other countries. The bank plans to lend \$30–40 billion of the \$60 billion.

To encourage conservation of water resources, the report emphasizes that water must be viewed as an economic good and priced appropriately. It recommends that water resources must be managed carefully, through balancing benefits and costs, and by placing more emphasis on consumer participation, economic incentives, and private sector funding.

"The trend toward privatization will pick up, especially when facilities hit rock bottom," Serageldin said. "Offering private enterprise the incentives to work efficiently now appears to be the way to provide the most services at the lowest price for the poor. The coming water crisis can be averted by this joint effort of the private sector, individuals, national and local governments, and international agencies."

The World Bank, which is the largest international financier of water projects, has a keen interest in water management issues, according to Sarwat Hussein of its media relations department. "We view water as a precious resource and are interested in seeing that it's priced properly," he said. Since 1950, the World Bank has lent more than \$36 billion for investments in irrigation, water supply, sanitation, flood control, and hydropower.

### Breathing Trees

By absorbing carbon dioxide to make oxygen, plants provide the very air we breathe. Now, researchers are discovering another important benefit of carbon dioxide-loving plants: the potential to help slow global warming.

In a study published in the August 25 issue of *Science*, Pieter Tans, a geochemist at the National Oceanic and Atmospheric Administration, and colleagues report that in 1992–1993, plants absorbed up to half the



**Unquenchable thirst?** Global water demand doubles every 21 years, but projected supplies will not meet the demand.